

WHAT IS CLAIMED IS:

1. An electromagnetic component formed from a multi-layer PCB comprising:
 - a plurality of conductive traces having a curved shape and two terminal ends, each conductive trace formed on an insulating layer of said PCB and positioned such that said conductive traces form a stack;
 - a plurality of conductors for interconnecting the terminal ends of each said conductive trace to form at least one turn of a winding;
 - a first conductive layer attached to a first outer surface of said PCB in a position at the top of said stack and having two terminal ends and approximately the same shape as said conductive traces;
 - a first additional conductor for connecting at least one of said first conductive layer terminal ends to a terminal end of at least one of said conductive traces;
 - a second conductive layer attached to a second outer surface of said PCB in a position at the bottom of said stack and having two terminal ends and approximately the same shape as said conductive traces; and
 - a second additional conductor for connecting at least one of said second conductive layer terminal ends to a terminal end of at least one of said conductive traces.
2. The electromagnetic component of Claim 1, wherein a first one of said conductive traces is formed on the top surface of said PCB and a second one of said conductive traces is formed on the bottom surface of said PCB, and wherein said first conductive layer is in conductive contact with said top conductive trace and said second conductive layer is in conductive contact with said bottom conductive trace.
3. The component of Claim 2, wherein said conductive contacts include the soldered attachment of said top and bottom surface traces to respective said first and second conductive layers.
4. The component of Claim 1, wherein each said conductive layer is a metal foil.

5. The component of Claim 1, wherein each said insulating layer defines an aperture, wherein each said conductive trace is in the shape of a loop positioned adjacent to the perimeter of a respective one of said apertures, and wherein said conductive layers are each shaped to define an aperture that corresponds to the shape of the apertures formed in said insulating layers, said component further comprising a core positioned in the space defined by said apertures.
6. The component of Claim 1, wherein the component is an inductor.
7. The component of Claim 1, wherein a plurality of conductive traces are connected by said conductors to form a first turn of said winding, and wherein at least one of said plurality of conductive traces is connected by said conductors to form a second turn of said winding.
8. The component of Claim 7, wherein said second turn of said winding includes at least two of said plurality of conductive traces.
9. The component of Claim 7, wherein at least one of said plurality of conductive traces is connected by said conductors to form a third turn of said winding.
10. The component of Claim 9, wherein said third turn of said winding includes at least two of said plurality of conductive traces.
11. The electromagnetic component of Claim 1, wherein one of said conductive traces is formed on the top surface of said PCB, said electromagnetic component further comprising an insulator disposed between said top conductive trace and said first conductive layer.
12. The component of Claim 11, wherein each said insulating layer defines an aperture, wherein each said conductive trace is shaped to substantially surround the perimeter of a respective one of said apertures, and wherein said first conductive layer and said insulator define an aperture that corresponds to the shape of the apertures formed in said insulating layers, said component further comprising a core positioned in the space defined by said apertures.

13. The component of Claim 11, wherein said first conductive layer forms a first turn of said winding, and wherein a plurality of conductive traces are connected by said conductors to form a second turn of said winding.
14. The component of Claim 13, wherein at least one of said plurality of conductive traces is connected by said conductors to form a third turn of said winding.
15. The component of Claim 14, wherein said third turn of said winding includes at least two of said plurality of conductive traces.
16. The component of Claim 1 wherein said plurality of conductors comprise at least one plated through hole formed in each said insulating layer.
17. An electromagnetic component formed from a multi-layer PCB comprising:
a plurality of conductive traces having a curved shape and two terminal ends, each conductive trace formed on an insulating layer of said PCB and positioned such that said conductive traces form a stack, and wherein a first one of said conductive traces is formed on the top surface of said PCB and a second one of said conductive traces is formed on the bottom surface of said PCB;
a plurality of conductors for interconnecting the terminal ends of each said conductive trace to form at least one turn of a winding;
a first conductive layer conductively attached to said first one of said conductive traces;
and
a second conductive layer conductively attached to said second one of said conductive traces.